

WHAT IS CLAIMED IS:

1. A color processing method for adjusting colors of a specific region, which is a subject of the adjustment in a 5 color image, the color processing method comprising:

calculating a color adjustment distance, which is a distance on a color space between a representative color representing the specific region in the color image and a target color, which is target of the adjustment, on the basis of the 10 representative color and the target color; and

deciding a reproduction color expressing the representative color of the specific region after the adjustment on the basis of the color adjustment distance, wherein the reproduction color is located between the representative color 15 and the target color.

2. The color processing method according to claim 1, further comprising:

calculating a reproduction distance coefficient, which 20 is used to calculate the reproduction color, on the basis of the color adjustment distance, wherein:

in the calculation of the reproduction color, the reproduction color is calculated on the basis of the color adjustment distance and the reproduction distance coefficient.

3. The color processing method according to claim 2,
further comprising:

calculating a brightness adjustment coefficient, which
is used to adjust brightness of the reproduction color, on the
5 basis of the representative color, wherein:

in the calculation of the reproduction color, the
reproduction color is calculated on the basis of the color
adjustment distance, the reproduction distance coefficient,
and the brightness adjustment coefficient.

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4. The color processing method according to claim 3,
wherein the brightness adjustment coefficient is calculated
on the basis of at least one of brightness, color saturation
and hue of the representative color.

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5. The color processing method according to claim 2,
wherein the reproduction distance coefficient is expressed by
one of a monotone decreasing function of the color adjustment
distance and a differentiable and continuous function of the
20 color adjustment distance.

6. The color processing method according to claim 2,
wherein the reproduction distance coefficient is constant when
the color adjustment distance is not larger than a predetermined
25 value but the reproduction distance coefficient is expressed

by a differentiable and continuous function of the color adjustment distance when the color adjustment distance is larger than the predetermined value.

5 7. The color processing method according to claim 1, wherein the target color is one of a given color, a color selected from a plurality of colors, and a color having a predetermined color component ratio.

10 8. The color processing method according to claim 1, wherein the target color is a color having the same color component ratio as that of the representative color.

15 9. The color processing method according to claim 1, further comprising:

adjusting colors of the specific region toward the reproduction color.

10. 10. A color processing apparatus for adjusting colors of a specific region, which is a subject of the adjustment in a color image, the color processing apparatus comprising:

20 a color adjustment distance calculation section for calculating a color adjustment distance, which is a distance on a color space between a representative color representing the specific region in the color image and a target color, which

is target of the adjustment, on the basis of the representative color and the target color; and

5 a reproduction color decision section for deciding a reproduction color expressing the representative color of the specific region after the adjustment on the basis of the color adjustment distance, wherein the reproduction color is located between the representative color and the target color.

11. A color processing apparatus for adjusting colors 10 of a specific region, which is a subject of the adjustment in a color image, the color processing apparatus comprising:

a color adjustment distance calculation section for calculating a color adjustment distance, which is a distance on a color space between a representative color representing 15 the specific region in the color image and a target color, which is target of the adjustment, on the basis of the representative color and the target color;

a reproduction distance coefficient calculation unit for calculating a reproduction distance coefficient, which is used 20 to calculate a reproduction color expressing the representative color of the specific region after color adjustment, on the basis of the color adjustment distance; and

a reproduction color calculation unit for calculating the reproduction color on the basis of the color adjustment 25 distance and the reproduction distance coefficient.

12. The color processing apparatus according to claim
11, further comprising:

5 a brightness adjustment coefficient calculation unit for
calculating a brightness adjustment coefficient, which is used
to adjust the brightness of the reproduction color, on the basis
of the representative color, wherein:

10 the reproduction color calculation unit calculates the
reproduction color on the basis of the color adjustment distance,
the reproduction distance coefficient, and the brightness
adjustment coefficient.

13. The color processing apparatus according to claim
12, wherein the brightness adjustment coefficient calculation
15 unit calculates the brightness adjustment coefficient on the
basis of at least one of brightness, color saturation and hue
of the representative color.

14. The color processing apparatus according to claim
20 11, wherein the reproduction distance coefficient calculation
unit calculates the reproduction distance coefficient in
accordance with one of a monotone decreasing function of the
color adjustment distance and a differentiable and continuous
function of the color adjustment distance.

15. The color processing apparatus according to claim
11, wherein the reproduction distance coefficient calculation
unit calculates the reproduction distance coefficient in
accordance with a function of the color adjustment distance
5 which takes a constant when the color adjustment distance is
not larger than a predetermined value, but is a differentiable
and continuous function when the color adjustment distance is
larger than the predetermined value.

10 16. The color processing apparatus according to claim
10, wherein the target color is one of a given color, a color
selected from a plurality of colors, and a color having a
predetermined color component ratio.

15 17. The color processing apparatus according to claim
10, wherein the target color is a color having the same color
component ratio as that of the representative color.

18. The color processing apparatus according to claim
20 10, further comprising:

a color adjustment unit for adjusting the colors of the
specific region toward the reproduction color.

19. A storage medium for storing a program readable
25 by a computer, the program making the computer execute a color

process for adjusting colors of a specific region, which is a subject of color adjustment in a color image, wherein the program making the computer execute a color processing comprising:

- 5 calculating a color adjustment distance, which is a distance on a color space between a representative color representing the specific region in the color image and a target color, which is target of the adjustment, on the basis of the representative color and the target color; and
- 10 deciding a reproduction color expressing the representative color of the specific region after the adjustment on the basis of the color adjustment distance, wherein the reproduction color is located between the representative color and the target color.

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20. A printer comprising:

 a color processing device for adjusting colors of a specific region, which is a subject of the adjustment in a color image, wherein the color processing apparatus includes:

- 20 a color adjustment distance calculation section for calculating a color adjustment distance, which is a distance on a color space between a representative color representing the specific region in the color image and a target color, which is target of the adjustment, on the basis of the representative color and the target

color; and

5 a reproduction color decision section for deciding a reproduction color expressing the representative color of the specific region after the adjustment on the basis of the color adjustment distance, wherein the reproduction color is located between the representative color and the target color.